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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/806,839 | 03/23/2004 | Nayan H. Joshi | ATOTP0103USA | 4235 |

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| EXAMINER | |
|---|---|
| KLEMANSKI, HELENE G | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1755 | |

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/806,839 | JOSHI ET AL. | |
| | Examiner | Art Unit | |
| | Helene Klemanski | 1755 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-24 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: on page 1, line 2 under the section "Cross-Reference to Related Applications", the term "10,265,864" should be replaced with the term "10/265,864".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for at least one inhibitor containing one or more nitrogen atoms, one or more sulfur atoms, or both sulfur and nitrogen atoms provided said nitrogen atoms are not present in an aliphatic amine or hydroxylamine selected from the group consisting of nitrogen-containing disulfides, alkali metal thiocyanates, thiocarbamates, nitrogen-containing heterocyclic compounds, mercapto substituted nitrogen-containing heterocyclic compounds, thioacids, thioalcohols, compounds of the formula $R_2N$-C(S)Y and mixtures thereof, does not reasonably provide enablement for at least one inhibitor containing one or more nitrogen atoms, one or more sulfur atoms, or both sulfur and nitrogen atoms provided said nitrogen atoms are not present in an

aliphatic amine or hydroxylamine. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The claims recite at least one inhibitor containing one or more nitrogen atoms, one or more sulfur atoms, or both sulfur and nitrogen atoms provided said nitrogen atoms are not present in an aliphatic amine or hydroxylamine. This encompasses any at least one inhibitor containing one or more nitrogen atoms, one or more sulfur atoms, or both sulfur and nitrogen atoms provided said nitrogen atoms are not present in an aliphatic amine or hydroxylamine. However, the specification only teaches the use of nitrogen-containing disulfides, alkali metal thiocyanates, thiocarbamates, nitrogen-containing heterocyclic compounds, mercapto substituted nitrogen-containing heterocyclic compounds, thioacids, thioalcohols, compounds of the formula $R_2N$-C(S)Y and mixtures thereof. Such a limited disclosure does not support the breadth of the instant claims. The examiner suggests the incorporation of the phrase "selected from the group consisting of nitrogen-containing disulfides, alkali metal thiocyanates, thiocarbamates, nitrogen-containing heterocyclic compounds, mercapto substituted nitrogen-containing heterocyclic compounds, thioacids, thioalcohols, compounds of the formula $R_2N$-C(S)Y and mixtures thereof" after the term "hydroxylamine" into claims 1, 7, 13 and 19 to overcome this rejection.

***Claim Rejections - 35 USC § 103***

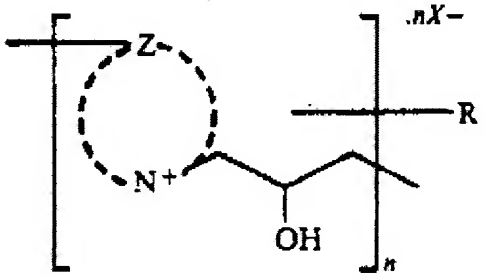
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 1007252 in view of Haydu et al.

GB 1007252 teaches an aqueous alkaline zincate solution comprising 8-45 g/l of zinc ions, 80-180 g/l of hydroxide ions, 8-45 g/l of nickel ions, up to 1 g/l of iron ions, up to 2 g/l of copper ions, up to 2 g/l of nitrate ions and up to 45 g/l of a complexing agent such as tartaric acid or salt thereof. GB 1007252 further teaches a process for treating an aluminum surface prior to electrolytic plating comprising the steps of: (1) alkaline cleaning of the surface; (2) acid etching of the surface; (3) immersion of the surface in the above aqueous alkaline zincate solution; (4) rinsing the surface; (5) optionally re-etching the surface with acid; (6) re-immersing the surface in the aqueous alkaline zincate solution and (7) rinsing the surface. The surface may optionally be rinsed between the cleaning and etching steps and between the etching and immersion steps to prevent carrying over one solution to the next. See page 1, lines 49-78, page 2, lines 1-85, page 3, lines 3-10 examples 1-3, page 4, lines 2-8, Table on page 5 and claims 1, 2, 4-7, 9, 11-16, 18-20, 22, 23, 26-28 and 30. GB 1007252 fails to teach the addition of an inhibitor as claimed by applicants to the zincate solution.

Haydu et al. teach a zincate solution comprising zinc ions, hydroxide ions, a chelating agent, metallic additives and 0.1-5% by volume of an additive comprising a bath soluble cationic condensation polymer of the formula




wherein Z is a group of atoms necessary to complete a heterocyclic compound having a 5 or 6-membered ring containing at least 2 nitrogen atoms, R is nothing or an alkyl group, X is Cl, Br or I and n>1 such as an imidazole derivative (i.e. nitrogen-containing heterocyclic compound inhibitor). The use of the additives produces a thinner zinc coating that is smoother and brighter. Haydu et al. further teach that the additive may be added to other commercial zincate solutions. Haydu et al. also teach a double zincating method for coating an aluminum surface comprising cleaning, etching, desmutting and immersion of the substrate in the zincate solution wherein water rinses are generally employed after each step. See col. 1, lines 8-10, col. 2, lines 54-68, col. 3, lines 1-16, col. 4, lines 1-65, col. 7, lines 2-27 and claims 1, 2, 6 and 9.

Therefore, it would have been obvious to one having ordinary skill in the art to have added the nitrogen-containing heterocyclic compound inhibitor additive of Haydu et al. to the conventional zincate solution of GB 1007252 to provide a smoother and brighter zinc coating as claimed by applicants.

***Conclusion***

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Helene Klemanski
Primary Examiner
Art Unit 1755

HK
July 8, 2004